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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,592	12/23/2003	Robert Brule	45283.102	1591
22828 7590 02/05/2007 EDWARD YOO C/O BENNETT JONES 1000 ATCO CENTRE 10035 - 105 STREET EDMONTON, ALBERTA, AB T5J3T2 CANADA			EXAMINER BALDWIN, GORDON	
			ART UNIT 1775	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	
3 MONTHS			02/05/2007	
			DELIVERY MODE PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.		Applicant(s)	
	10/707,592		BRULE ET AL.	
	Examiner		Art Unit	
	Gordon R. Baldwin		1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Ray (U. S. Pat. No. 5,098,871).

Consider claims 1-10, the term “gas seal” or “seal” is considered to be an intended use and a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Ray teaches a ceramic composite (with ceramic powders and fibers (Col. 3 lines 18-35 and Col. 5 lines 23-28) in which the binder is removed and the porosity is increased by a binder burnout phase.

As for the percentage of porosity and the making of the fired ceramic being substantially free of binder at certain percentage, these limitation are considered to be product-by-process limitations and even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process., (In re Thorpe, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to

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that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (*In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

Claims 1, 2 and 7-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakano (U.S. Patent 5,489,408).

Consider claims 1, 2 and 7-10, the term "gas seal" or "seal" is considered to be an intended use and a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Nakano teaches the production of a ceramic composite that uses ceramic fibers and powder with a binder that is burned off in a thermal decomposition process before the ceramic is sintered to give a low porosity. (Col. 3 lines 32-47, Col. 4 lines 10-21)

As for the percentage of porosity and the making of the fired ceramic being substantially free of binder at certain percentage, these limitations are considered to be product-by-process limitations and even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process., (*In re Thorpe*, 227 USPQ 964,966). Once the Examiner provides a

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rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (*In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritland (U.S. Pat. No. 5,503,122) and further in view of De Jager (U.S. Pat. no. 5,439,627).

Consider claims 1 and 3-10, Ritland teaches a ceramic matrix with a powder ceramic that is presintered (or fired) to remove the binder, but is not sintered, with alumina as the ceramic, and the per-sintered ceramic attains a porosity of 10-70%, which is considered to encompass a range of less than 50%, 45%, 40% and 35% porosity. (Col. 5 lines 30-40 and Col. 7 lines 8-50) Ritland also suggest the use of

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ceramic fibers in metallic components. (Col. 3 lines 3-6) Ritland also teaches the use of a binder and the burning off of the binder to control the porosity of the final product.

(Col. 7 lines 7-27) However, Ritland does not specifically teach the use of ceramic fibers in the presintered ceramic matrix, however, De Jager teaches the manufacture of reinforced compositions using composites and laminates reinforced with long or continuous fibers or filaments with ceramic matrix composites (Col. 1 lines 5-12), the use of binder, which is removed by heating (Col. 6, lines 11-14). De Jager also teaches that matrix particle (ceramic structure with fiber and filaments) present between the monofilaments keeps the filaments spaced, and the pre-form or molded structure becomes more and more porous during debinding. (time required for binder removal by heat)(Col. 6 lines 10-14 and lines 25-31) By this statement in De Jager, when the ceramic item containing binder, is heated (or fired) the binder will be removed, and with the binder being removed, the fibrous particles in the ceramic matrix will increase in porosity. Additionally, De Jager teaches the use a tape casting process. (Col. 3 lines 3-7)

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the ceramic-metal engine component of Ritland with De Jager's methods of manufacturing reinforced compositions with binders that increase porosity minimally to be able to design seals with lower porosity through combining metal powders with certain binders which can maximize physical strength and density.

Consider claim 2, claim 2 is considered to be an intended use and a recitation of the intended use of the claimed invention must result in a structural difference

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between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. The combination of Ritland and De Jager is considered to teach a structure that is capable of performing in the same capacity as the claimed invention.

Response to Arguments

Applicant's arguments, filed 12/22/2006, with respect to the rejection(s) of claim(s) 1-10 under 35 U.S.C. 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Ray (U.S. Pat. No. 5,098,871) and Nakano (U.S. Pat. 5,489,408) and Ritland (U.S. Pat. No. 5,503,122) in view of De Jager (U.S. Pat. no. 5,439,627).

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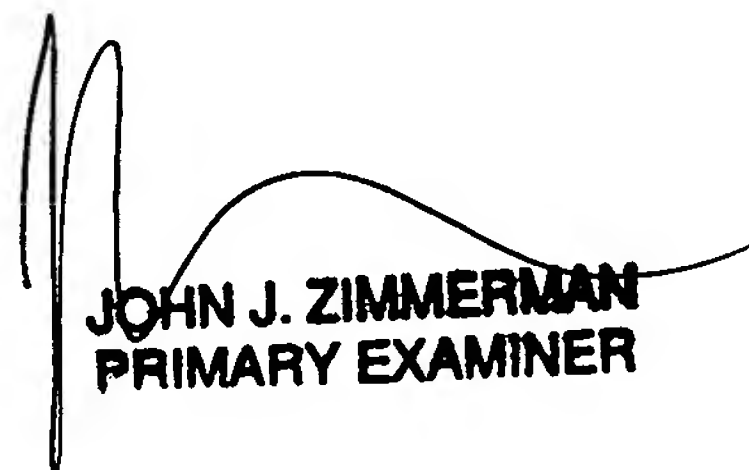
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon R. Baldwin whose telephone number is (571)272-5166. The examiner can normally be reached on M-F 7:45-5:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GRB


JOHN J. ZIMMERMAN
PRIMARY EXAMINER